

INSTITUTIONAL BIOSAFETY COMMITTEE MEETING

May 16, 2018

3 PM, Plant Biotechnology Bldg., Room 410

MEMBERS PRESENT: Chair, David White; Vice Chair, Elizabeth Fozo; Lori Cole, Reza Hajimorad, Brittany Isabell, Jun Lin, Reggie Millwood, Deidra Mountain, Ling Zhao

Ex-Officio – Linda Hamilton, Brian Ranger, Jessica Woofter

MEMBERS ABSENT: Marc Caldwell, Tamara Chavez-Lindell, Doris D'Souza, Paul Dalhaimer, George Dizikes, Melissa Kennedy, Jae Park

OTHERS PRESENT: None

Opening:

The IBC Chair, Dr. David White, called the meeting to order at After 3 PM. The minutes of April 23, 2018 were reviewed and approved as written with two abstentions.

IBC Applications:

#IBC-06-276-2 (Shigetoshi Eda) Infectious Agents and Human-derived Materials, 3-year rewrite

Dr. Shigetoshi Eda's registration covers two novel detection technologies for the diagnosis of Johne's disease (JD) caused by *Mycobacterium avium* subsp. *paratuberculosis* (MAP). Dr. Eda's research also hopes to develop rapid diagnostics for other diseases such as Crohn's disease, bovine tuberculosis, mastitis, malaria, and Lyme disease. This registration covers approximately 20 Risk Group 2 infectious agents for specificity and sensitivity controls for the detection assays in development. The Risk Group 2 indication in the list of infectious agents, and the addition of human serum testing dates. Containment was set at BSL-2. The committee voted to table this registration pending further clarification of the IACUC reference, listing of all ATCC numbers for relevant Risk Group 2 organisms, listing RG2 organisms individually with sources, and correction of typographical errors.

#IBC-12-381-2 (Maria Prado) Recombinant DNA, III-D-1-a, 3-year rewrite

Dr. Prado's registration covers the fluorescent labeling of *Streptococcus uberis* and *Escherichia coli* bovine mastitis isolates to determine if biofilm formation contributes to clinical mastitis in dairy cattle. Plasmids carrying the fluorescent mCherry gene will be used to transform *E. coli* or *S. uberis* by electroporation. Cells will be plated on LB agar or other appropriate media containing an antibiotic (tetracycline, gentamycin, erythromycin or kanamycin). The resulting transformants will be confirmed by direct visualization in the IVIS camera to detect the fluorescence and by PCR. Though not currently in progress, similar procedures may be done in *Pasteurella multocida*. The committee approved the registration pending further clarification of the technical summary and the associated hosts.

#IBC-13-397-2 (Richard Gerhold) Infectious Agents, Amendment

Dr. Gerhold's registration covers his research on molecular parasitology experiments to determine the epidemiology of infections by comparing the DNA sequences of the various parasites including: *Trichomonas* spp. and *Histomonas* spp. in wild bird, *Elaeophora* spp. and *Parelaphostrongylus* spp. from wildlife (primarily ruminants). Procedures will include DNA extraction and PCR testing using commercial testing kits. In addition, various animal parasites will be cultured in the lab (in vitro) to perform a battery of experiments to understand the factors associated with infection and disease progression. Further work will include examining potential in vitro chemotherapeutic control options to control parasite infection. His amendment will include the addition of *Toxoplasma gondii*. The committee voted to approve his amendment pending correction of typographical errors; the addition of a health surveillance statement notifying pregnant mother about the associated risks; and the addition of laboratory spaces in the facilities section of his registration.

#IBC-18-520-2 (Graham Hickling) Infectious Agents, New registration

Dr. Graham Hickling's research covers the study of tick-borne Lyme disease, which is currently expanding into southeastern states, including TN, KY and VA. He seeks to understand how differences in wildlife host availability (specifically, rodent vs. lizard abundance) will affect the dynamics of Lyme disease transmission in these three states. Rodents are a key reservoir host for the Lyme disease bacterium, *Borrelia burgdorferi*, whereas lizards are not susceptible to the bacterium and so have the potential to inhibit the Lyme disease cycle. The committee approved the registration pending the addition of respirators to the personal protective equipment (PPE) section.

Old Business:

Administrative Report

i. Contingencies

Following up on April 23, 2018, IBC meeting, Dr. Neal Stewart's registration (#12-379-1) was edited to include clarification of sharps waste disposal.

ii. Administrative Approvals

Dr. Jeffrey Becker's amendment (#17-505-2) was administratively approved by the Vice Chair to include the addition of *E. coli* O157:H7:EDL933(ATCC 43895), *Enterococcus faecalis* OG1RF (ATCC 47077), *Propionibacterium acnes* (ATCC 6919), *Staphylococcus epidermidis* (ATCC 12228), and *Staphylococcus haemolyticus* (ATCC 29970); no change in containment level. Dr. Thomas Denes' amendment (#16-444-2) was administratively approved by the Chair to include the addition of environmental organisms from "clarified" waste water from treatment plants post sedimentation, but previous to chemical or UV treatment; no change to review category or containment level. Dr. Brad Binder's amendment (#08-331-1) was administratively approved by the Biosafety Officer to include updates to grant information and the addition of ethylene receptor from *Azospirillum brasilense* (AzoEtr1) insert genes; no change to review category or containment level. Dr. Ling Zhao's amendment (#09-344-2) was administratively

approved by the Biosafety Officer to include the addition of human breast epithelial cell line MCF10A, human breast cancer cell line MCF7 and MDA-MB-231, and autoluminescent MCF7 breast cancer cell line and autoluminescent T47-D breast cancer cell lines. Dr. Gabriela Cabana's registration (#09-389-2) was administratively approved by the Biosafety Officer as a 3-year rewrite: *Extraction and Analysis of DNA from Human Biological Material*. Dr. Sarah Lebeis' amendment (#14-414-1) was administratively approved by the Chair to include the Addition of *Pantoea* spp. Ralf4 containing mariner transposon for random mutagenesis of approved root microbiome agents; *Streptomyces canus* 299MFChir4.1; and *Streptomyces* spp. 303MFCo15.2, each with Cas9-bearing plasmids for targeted mutagenesis of approved root microbiome agents; no change to review category or containment level. Dr. Matthew Cooper's amendment (#14-421-1) was administratively approved by the Chair to include the addition of pRAM promoters; the addition of tTA, mKate2, tdTomato insert genes; no change to review category or containment level.

iii. *Administrative Terminations*

Dr. Robert Trigiano's registration (#06-270-1) was administratively terminated and all materials are being held in storage.

iv. *Administrative Exemptions:*

None.

v. *Accidents, Injuries/Exposures:*

None.

vi. *Laboratory Report (Hamilton)*

None.

vii. *iMedRIS Update, Manual Reviews, & System Orientation (Woofter)*

None.

Charter revision-review of training and reporting SOPs

Brian presented the training and reporting SOPs created by Linda. The Chair requested that hyperlinks be added to the SOP.

SEBSA Symposium

Brian notified the committee that the symposium went well. SEBSA added ten new members and the Biosafety Office was requested to write a paper about peer-review of biosafety programs. Brian also notified the committee that Dr. Lear received high accolades for her talk on the Zika virus study as well as the organization of the Johnson Animal Research and Teaching Unit.

WLS and JHB lab moves to the new Mossman Bldg.

Brian gave the committee an update on the laboratory moves to the new Mossman Building.

New Business:

IBC Form Edits – redesign of host/vector table

Brian asked the committee about their thoughts regarding changes to the Recombinant DNA host table in the IBC form. Are any of the proposed genes toxins? Are any of the proposed genes oncogenes?

July meeting

Brian notified the committee that he will not be able to attend July 18th.

The meeting was adjourned at 4:42 PM. The next meeting has been tentatively scheduled for June 20, 2018, at 3 pm in the Plant Biotechnology Building, Room 410.